C
ItGuEthiL

*50th*
*ANNIVERSARY*
*LECTURE SERIES*
*University of Illinois*
*Graduate College*

# *UNCONSCIOUS PROCESSES AND MAN'S RATIONALITY*

*By Ernest R. Hilgard*

Digitized by the Internet Archive
in 2013

http://archive.org/details/unconsciousproce505hilg

*50th*

*ANNIVERSARY*
*LECTURE SERIES*
*University of Illinois*
*Graduate College*

# *UNCONSCIOUS PROCESSES AND MAN'S RATIONALITY*

*By Ernest R. Hilgard*
*Professor of Psychology*
*Stanford University*

C
Illu Ethel
Ill. Coll.

# FIFTIETH ANNIVERSARY OF THE GRADUATE COLLEGE AT THE UNIVERSITY OF ILLINOIS

This year the University of Illinois is celebrating the Fiftieth Anniversary of the formal opening of its Graduate School, which was inaugurated in 1908. There had been graduate instruction prior to that date, but the work was conducted by the individual departments without uniformity of aims and standards. The first graduate students were enrolled in 1874, and by 1903 the graduate population comprised 3 per cent of the total enrollment. Only master's degrees were awarded at first, but in 1903 the first two candidates for the doctorate received their degrees.

By 1906 the need for an expanded graduate program became apparent and President Edmund J. James appointed a "Committee of the Graduate School." This Committee drew up plans which culminated in the formal opening of the Graduate School in February, 1908, under Dean David Kinley, who was later to become President of the University.

Starting with an enrollment of 168 students receiving graduate instruction in 12 departments, the School expanded to the point where more than 3,500 students are now enrolled in over 65 departments.

In 1947 the name of the School was changed to the Graduate College to reflect its size and breadth of interest. Besides administering programs of advanced study, the College supports a number of interdisciplinary enterprises, such as the Digital Computer Laboratory, and administers the University's fellowship and graduate scholarship programs. Drawing its students from all over the country and, indeed, the world, the Graduate College has become a true community of scholars.

FREDERICK T. WALL, *Dean*
*Graduate College*

## LECTURES IN COMMEMORATION OF THE FIFTIETH ANNIVERSARY OF THE GRADUATE COLLEGE

I. THE UNIVERSITY OF ILLINOIS IN RETROSPECT

Mark Van Doren

*Professor of English, Columbia University*

*January 26, 1958*

II. THE WORLD VIEW OF MODERNS

Hermann J. Muller

*Distinguished Service Professor of Zoology, Indiana University*

*February 11, 1958*

III. REQUISITES FOR SURVIVAL

Harrison Brown

*Professor of Geochemistry, California Institute of Technology*

*March 13, 1958*

IV. THE AMERICAN ARTS AND AMERICAN FREEDOM: A WORLD VIEW

Allan Nevins

*Professor of American History, Columbia University*

*April 8, 1958*

V. UNCONSCIOUS PROCESSES AND MAN'S RATIONALITY

Ernest R. Hilgard

*Professor of Psychology, Stanford University*

*May 7, 1958*

*Copies of these lectures may be procured from the University of Illinois Press*

## UNCONSCIOUS PROCESSES AND MAN'S RATIONALITY

By Ernest R. Hilgard

Man's claim to rationality rests upon his capacity to foresee the consequences of his actions and hence to work planfully toward goals that he selects.

Man's view of himself changes from time to time throughout history. The eighteenth century, for example, is sometimes called the Age of Enlightenment because man then seemed to feel at home in the universe and confident in his power to improve his lot. It was the century in which humane and democratic values came to the fore, and with the growth of understanding it was felt that the perfectibility of man was but a matter of time. The twentieth century has vacillated between an optimistic and a pessimistic view of man. During and after World War I we thought we had been fighting to make the world safe for democracy and were optimistic about the outcome. While after World War II and Korea we are still in the mood to fight to preserve the values of the free world, we are less optimistic, for both the costs and terrors of battle have risen, and we fear now lest an all-out war might endanger man's very survival upon the earth. It is a commonplace observation that our mastery of physical energy — both constructive and destructive — has run ahead of the social safeguards by which we can protect ourselves from our own creations.

Our only hope lies in man's capacity to take thought, to solve his problems, to learn from the past, to anticipate and shape the future according to acceptable human values. Modern psychology, we are told, has shattered this picture of man by calling attention to the power of unconscious and irrational forces in him, so that his claims to rationality are superficial and his intellect is in reality at the service of blind impulses, inherited from the past or instilled in earliest childhood.

I have chosen as my task an examination of psychology's findings about unconscious processes as these findings bear on the question whether man is sufficiently rational to give us hope or whether our knowledge of unconscious motivation leads us to an inevitable pessimism about the future.

Psychology as a science is too young, its methods are too crude, and its findings are too uncertain to give us a definitive answer to a social question of the magnitude of the question I have just posed. Yet its findings, even though of small scale, are not irrelevant to the larger issues. My plan is now to turn aside for a time from the larger issues to consider types of psychological findings bearing on unconscious processes, to return in the end to some speculations bearing on the larger social problems with which I began.

## Evidence from Case Studies

As everybody knows, unconscious processes rose to prominence through the work of Sigmund Freud, who drew his evidence largely from the intimate study of the lives of suffering neurotic people who came to him for treatment. He cited four chief evidences for unconscious processes. First, *dreams.* He considered dreams the royal road to the unconscious because the dreamer, without feeling any personal responsibility for his dreams, is actually the playwright, producer, and cast for a drama revealing his deepest desires if we but know how to interpret the message of the dream. Second, *mannerisms* and *tics.* The unconscious may speak through bodily movements. We are aware of this in gross form in the swaying movements and mincing steps of the effeminate man or the more angular movements of the masculine woman. The skilled observer can detect many subtle signs of meaning in personal mannerisms — meanings unintended by the person who is revealing himself in this way.

Third, *verbal slips* and *free associations.* In ordinary conversations we occasionally "let the cat out of the bag" by inserting a negative where we do not intend it — though part of us does — or where we make other slips of the kind the radio commentators call "bloopers." Freud not only called attention to these verbal indicators of the unconscious, but capitalized upon the free flow of verbal association as his basic method in psychoanalysis. The fourth and final one of the ways in which the unconscious manifests itself is in *symptoms of illness* — neurotic symptoms, psychosomatic symptoms, or the symptoms of functional psychosis. All this is by

now widely known and widely accepted, although opinions still differ as to the appropriate characterization to be given unconscious processes.

Let me describe a single case from a child guidance clinic as an illustration of how the clinician infers the unconscious meanings of symptoms.

Mary is a six-year-old girl who for the last five months has had a severe eye tic. Her eyes periodically roll to the left and upward in an annoying manner. Occasionally there is some variation in symptoms: excessive blinking, wide-eyed staring, and nose-twitching. Because the behavior is intolerable and does not clear up by itself, her mother brings her to a child guidance clinic.

The symptoms pose two problems. First, why did Mary develop this particular symptom? Second, what purpose does the symptom serve?

Mary began to have the symptom at a party her mother gave for a young married friend who was six months pregnant. This suggests a possible relationship to curiosity about sex and childbirth. Mary's mother had failed to tell her anything about the anatomical differences between boys and girls, about where babies come from, about the sex act. Mary had in part satisfied her curiosity by observing the male organ of a boy playmate, but she was both guilty about the looking and unsatisfied by her information. Guilt over her curiosity led to symptoms in the eyes — the sense organs that satisfy one form of curiosity. When the workers in the child guidance clinic helped her both to learn the facts of life and to free herself of guilt over her curiosity, the symptoms disappeared. The *location* of the symptoms is explained by guilt attached to looking; the *purpose served* by the symptoms is less clear. They apparently represent a kind of language in which the child is trying to ask a question unconsciously because the conscious questioning has been forbidden or inhibited.[1]

This case illustrates in a most fragmentary way how the clinician infers the expression of unconscious motives through symptoms. Because the symptoms disappear with psychotherapy, there is good justification for believing that their cause was functional rather than organic.

## Evidence from the Laboratory

While the clinic furnishes many rich observations, psychologists tend to prefer to test the generalizations in the laboratory. What has the laboratory to say about unconscious processes?

*Motivation by Subliminal Stimuli.* A great stir was caused in September 1957 by the announcement that a motion picture audience had been influenced to buy Coca Cola and popcorn by sug-

[1] Case courtesy of Josephine R. Hilgard, M.D.

gestions that had appeared on the screen below the level of awareness. This resulted in an avalanche of letters to the editor, expressing alarm that to the commercials already bombarding us on the radio and TV we would now have added a bombardment of which we were unaware and against which we would therefore be defenseless.

This was not a mere flash-in-the-pan, a publicity stunt soon to be forgotten. According to a careful report in the Wall Street Journal[2] and another in Life Magazine,[2] two companies are in the field competing for business and they already have some takers.

There have been tests in England, in Canada, and in this country in Bangor, Maine, in Minneapolis, in Chicago; services have been contracted for in Los Angeles, and presumably elsewhere.

To be sure, the evidence to date is not very convincing. The Canadian Broadcasting Company in February of this year reported the result of an experiment conducted over 27 Canadian TV stations.[3] They flashed a message 352 times. Viewers were asked to report their reactions. Some 51 per cent of over 500 viewers who reported by mail said they "felt compelled to do something." Many reported they "felt compelled to drink something," mentioning almost every beverage. Others said they felt like eating. They had sudden urges for grilled cheese sandwiches, chocolate chip cookies, raw carrots, peanut butter, smoked meat, peanuts, and popcorn. Some felt they must stand up. Others felt that they must take off their shoes; someone felt an urge to go out and buy an electric frying pan. These replies may indeed illustrate unconscious motivation — that is, acts the person was ready to be persuaded to do by a subtle hidden persuader. Actually the message had stated merely: "Telephone now." Only 16 viewers telephoned after the show, no more than usually report their reactions. Hence the experiment was a failure, so far as demonstrating an influence by the concealed message. Nevertheless, I do not believe that we should laugh off the possibility of some influence by these devices as they become perfected.

There is little evidence from the psychological laboratory bearing directly on the issue of the influence of an unconscious message upon motivation. The nearest thing is an experiment in

[2] Henderson, C. "The Phantom Sell." *Wall Street Journal,* March 7, 1958. Brean, H. " 'Hidden Sell' Technique Is Almost Here." *Life Magazine,* March 31, 1958, 102-114.

[3] My account is based on that in the *Detroit News,* February 16, 1958.

which the words "happy" and "angry" were flashed subliminally along with the picture of a face of somewhat ambiguous expression.[4] Those who received "happy" as their subthreshold cue reported the face as happy, or pleasant, or used some other word indicating favorable emotion. Those who received "angry" as their unconscious cue did not necessarily report the face as angry, but as tense, anxious, serious, stern, forbidding, or in some other way somber or threatening. These responses are related to unconscious motivation because we tend to make approach responses toward objects seen as pleasant or liked and we tend to make avoidance responses to objects seen as unpleasant or disliked. However, any action tendencies evoked by the stimuli were not tested in this experiment.

We have, then, no laboratory demonstrations at the present time that subliminal messages motivate the receiver of such messages to act upon them.

*Behavior Without Awareness.* Psychologists have experimented for many years on the reactions of subjects to stimuli below the threshold, that is, presented at intensities so low, or at times so short, that the subject believed he was merely guessing when reporting what he saw. In a thorough review of this type of experiment, Adams[5] has shown that the evidence is not as satisfactory as many of us have believed; for many kinds of experiments the results are plausible but not really proven. One kind of experiment has yielded firm results. This is the kind in which a subject has a known task — to decide which of two weights is heavier, which of a given set of letters or digits was briefly exposed, the color of playing cards held at a distance, and so on. Although the subject believes he has nothing to go on and is merely guessing, his guesses exceed chance. Results from seven experiments are summarized in Figure 1 (see page 19), reproduced from Adams' review. The chart is so drawn that the points lying above the diagonal all represent guesses better than chance. Results of all experiments reviewed are positive; that is, all results show that the subjects have been influenced by aspects of the stimuli they were unable to perceive at a conscious level.

[4] The experiment is cited by Smith, G. "Visual Perception: An Event over Time." *Psychol. Rev.,* 1957, 64, 306-313. The original report has not appeared at the time of writing. It is to appear as Smith, G., Spence, D. P., and Klein, G. S. "Subliminal Effects of Verbal Stimuli." *J. Pers.*

[5] Adams, J. K. "Laboratory Studies of Behavior Without Awareness." *Psychol. Bull.,* 1957, 54, 383-405.

This appears to be a very skimpy yield in a field where much is expected in view of the great importance attributed to unconscious processes in contemporary dynamic psychology.

The concept of threshold or limen, required in the definition of subthreshold or subliminal processes, turns out to be a very tricky one. There is no sharp dividing line between what is perceptible and what is not perceptible. A very neat experiment coming from the University of Lund in Sweden points this up very clearly.[6]

The picture of a car is projected on a screen, but so dimly that the subject cannot see it. Ask him what he sees and he is completely baffled; the screen is formless. Now a street scene is superimposed upon the picture of the car, so that the car fits naturally in the street. Now, lo and behold, the subject sees the car as part of this total picture! What was subthreshold has become suprathreshold in this appropriate context. As a control, a living room scene is superimposed on the car. There is space for the car in the middle of the rug, just as there was space for it in the street. Now, however, the car remains invisible.

A rather different type of experiment has been used to show the influence of unperceived features of briefly exposed pictures upon later productions by the subject. The earliest of these, by Poetzl in 1917, showed how a briefly exposed picture could influence the dreams of a subject. Aspects of the picture that were unnoticed by the subject appeared in his dreams that night. This seemingly far-fetched finding has been confirmed in the three experiments that I know of that have attempted to repeat Poetzl's conditions, two of them within the recent past.[7] No failure has been reported.

A related experiment, but one somewhat easier to repeat, is that in which a picture is exposed briefly and then a word-

[6] Smith, G., and Hendrickson, M. "Studies in the Development of a Percept Within Various Contexts of Perceived Reality." *Acta Psychol.,* 1956, 12, 263-281.

[7] The experiments are: Poetzl, O. "Experimentell erregte Traumbilder in ihren Beziehungen zum indirekten Sehen." *Z. ges. Neurol. Psychiat.,* 1917, 37, 278-349. Malamud, W., and Linder, E. F. "Dreams and Their Relations to Recent Impressions." *Arch. Neurol. Psychiat.,* 1931, 25, 1081-1099. Fisher, C. "Dreams and Perception: The Role of Preconscious and Primary Modes of Perception in Dream Formation." *J. Amer. Psychoanal. Assn.,* 1954, 2, 389-445. Luborsky, L., and Shevrin, H. "Dreams and Day-Residues: A Study of the Poetzl Observation." *Bull. Menninger Clin.,* 1956, 20, 135-148.

association test is used (instead of a dream) to find influences from unnoticed features of the picture. The usual word association test is carried out by asking the subject to respond to the stimulus word with the first word that comes to mind (up — "down," man — "woman," afraid — "snake," and so on). The verbal response in these experiments is supplemented by asking the subject to draw whatever scene or fantasy is suggested to him by his response. In these drawings he may reveal an influence by features of the original stimulus that he did not consciously perceive.

The original experiment of this kind was performed in 1924, and there have been successful recent repetitions.[8] We have undertaken a series of related experiments at Stanford this year, and in the next few figures I wish to illustrate some of the typical findings.[9]

We have used several pictures, but the results reported were obtained with two pictures. One of these, the first in Figure 2 (see page 20), is a scene of a family of southwestern Indians sitting before a log trading post.[10] It is exposed for 1/50 of a second and the subject is asked to draw what he sees. The subject typically sees people sitting before a house or a wall, but the number of people is not constant, the baby is often overlooked, the man's hat may be missing, and many other distortions occur.

The word-association test follows the presentation of the picture and this first drawing. Now what we find is that features of the picture lacking in the original drawing may appear in the drawing following the word-association. Sometimes these features are actual "direct recoveries" of material from the picture; sometimes what is drawn appears to be influenced by unnoticed features of the picture, but does not appear as a direct recovery.

In Figure 2 we also see a second kind of stimulus effect,

[8] Allers, R., and Teler, I. "Ueber die unbemerkten Eindruecke bei Associationen." *Z. Neurol. Psychiat.,* 1924, 89, 492-513. Fisher, C., "Dreams, Images, and Perception." *J. Amer. Psychoanal. Assn.,* 1956, 4, 5-48. Some related observations are reported by Luborsky and Shevrin (see footnote 7, page 10).

[9] These experiments have been performed in the Laboratory of Human Development, Stanford University, in collaboration with Mr. Judah Landes. A preliminary report was given at the Western Psychological Association on April 25, 1958, but the results are as yet unpublished.

[10] The pictures are available commercially as "Family at Trading Post," number 112A-8, Drewry Photocolor, Glendale, California; "By a Jungle Waterfall," Adventureland No. 5 (Copyright Walt Disney Productions 1958), Sawyer's Inc., Portland 7, Oregon.

UNIVERSITY OF ILLINOIS
LIBRARY

in which there is evidence of influence by the original picture, but the drawings do not represent actual parts of the original picture. A step of interpretation is involved, and careful controls have to be run to avoid undue gullibility in interpreting what the subject draws. For example, the original pictures can be turned around in the projector, so what we see is a mirror image of the original. Then the stimulus effects must reflect this reversal if they are to be scored as recovery of the stimulus. In the upper righthand picture the subject said "brown" to earth and drew what he described as a plowed field. But the strange composition reflects the vertical lines of the window bars at the left in the original pictures. These same bars occasionally become the prongs of a pitchfork, as in the lower left. This is the third subject in our series to produce a three-pronged pitchfork. The window bars are also reflected in the picture at the lower right, where they have become the supports for the porch of a ranch-house.

One point which we find of some importance is that the fragments of the stimulus recovered in the word association test are seldom incorporated in a final drawing of the picture that we ask the subject to make. I shall here refer to a second picture, a jungle scene including a waterfall. Though waterfalls are absent from original drawings, "recovered" waterfalls are fairly common in the word-association drawings. They vary from Niagara Falls, and a mountain stream, to a ray of pure white light in the position of the pictured waterfall. But these recovered details are rarely perceived as belonging to the stimulus picture. The series shown in Figure 3 (see page 21) is not unusual — a first picture with no waterfall, as in the upper right, followed by a good waterfall, complete with ferns and rocks, in the lower left. Then the final drawing of the exposed picture, in the lower right, remains close to the original. The original here is a tracing of the actual colored slide. These are accurate reproductions of one subject's drawings, including his spelling error. The series suggests that the unconsciously perceived material is dissociated from the original perception.

We are not dealing in these illustrations with unusual or bizarre results. The results from our first 32 subjects are presented in Figure 4 (see page 22). These are typical university undergraduates, participating in the experiment as part of their responsibilities in an introductory psychology course. The black portions represent the direct and indirect recovery of unnoticed aspects of the exposed pictures. The top two bars represent the results for

men and women with the Indian picture, the bottom for the same subjects with the jungle picture. About half the subjects give clear evidence of recovery of unnoticed features of the pictures. The cross-hatched areas represent additional kinds of stimulus influence here called "marginal." This means that it can be argued that there is some recovery, but the results are not sufficiently convincing to satisfy a sceptic and hence are not used as a basis for arguing the case for subliminal influence. The somewhat greater frequency of marginal recoveries for the jungle picture reflects the greater ambiguity of that picture as compared with the Indian picture.

There are two main lines of theorizing that suggest themselves in interpreting our results. First is the line coming from Gestalt psychology. That is, in perception we tend to interpret stimulus masses in organized ways, as figures upon a background. It would be consistent with this standpoint to have the subject perceive the picture in some oversimplified way, rejecting features of it that are inconsistent with the perceived theme. These rejected features might then crop up in some other context in which they could be incorporated.

We have evidence through recognition tests that some such process may be operative. That is, we have prepared some standard distortions of the pictures and asked the subjects to pick the picture most like the one they saw briefly. Here we find a tendency to select either a picture a good deal simpler than the one presented, or one that seems more coherent than the original.

The second line of theorizing derives from psychoanalysis. This suggests that the distortions in perception have to do with unconscious motives of the person, his anxieties and defenses against them. We would expect a certain amount of sexual symbolism to be found in the fantasies aroused by the word associations because sex is often an area of unconscious conflict. Figure 5 (see page 23) presents one series of pictures, all from one young woman subject, as illustrative. The familiar poles are converted in the first drawing to a man holding a spear; the word association afraid — "man" produces a sexually suggestive modification of the picture; in the final drawing the man recovers his original stance, but a snake (a male sex symbol) appears in the foreground and what may be female symbols appear in the background. I do not wish at this point to defend the psychoanalytic system, but it is clear that some of the things that have impressed the psychoanalysts show up in experiments of this kind.

These exhibits will suffice to indicate that there are kinds of behavior that go on outside of clear awareness. I have now presented one clinical case, and a small sample of experimental results bearing on unconscious processes. I regret that I do not have time to review other findings in the experimental study of perceptual defense and related topics, a field in which members of the University of Illinois staff, particularly Dr. Eriksen, have made important contributions.[11]

## The Nature of Unconscious Processes

It is easier to demonstrate unconscious processes than to characterize them satisfactorily. The notion that there is some kind of mystical and ghostlike unconscious self lurking within us and operating us in puppet-like fashion has some appeal, but it does not strike the contemporary psychologist as more than a metaphor. I am afraid that the best we can do is to substitute another metaphor, although it is one that is a little easier to deal with. This is the metaphor of a communication system. Processes that we call *conscious* are those we can readily discuss in words; we can reach consensual validation if other people talk about them as we do. Even subjective states, such as the experiences of color, are communicated through verbal signals, through verbal agreement. For example, we know what colors look like to a color-blind person by finding a person color-blind in one eye and having him point to the colors that he sees with his color-blind eye, matching them to the colors that he sees with his normal eye. We know what his experience is like because he can name colors seen through the normal eye the same as other noncolor-blind people name them.[12] Processes we call *unconscious* are those that resist the same kind of discussion; that is, they follow a somewhat different pattern of communication.

The field of hypnosis turns out to be a fruitful one in which to study some of these processes, and our laboratory is now undertaking some investigations in this field also. Suppose a subject is given a simple posthypnotic suggestion and is told that upon awakening he will carry out the act but will not remember the instruc-

[11] See, for example, Eriksen, C. W. "Subception: Fact or Artifact?" *Psychol. Rev.*, 1956, 63, 74-80. Eriksen, C. W., and Browne, C. T. "An Experimental and Theoretical Analysis of Perceptual Defense." *J. Abn. Soc. Psychol.*, 1956, 52, 224-230.

[12] Graham, C. H., and Hsia, Y. "Color Defect and Color Theory." *Science*, 1958, 127, 675-682.

tion. For example, in a class demonstration the other day I suggested to a hypnotized student that on awakening and upon my removing my glasses he would move from the easy chair in which he was sitting to a straight chair across the room, but he would forget I had told him to do so. After I awakened him he watched me out of the corner of his eye; when I casually removed my glasses, he quickly moved to the chair across the room. When asked why, he said: "That chair I was sitting in was getting a little warm, and I believe this one nearer the window will be a little cooler."

Now we have two sets of communications. Mine tells him to move to the chair on a signal; his explanation does not square with mine. On the assumption that he is acting in good faith, he is being influenced by an "unconscious" motive. When he received the instruction it was perfectly conscious; in fact, he repeated it after me. Hence we are not dealing here with unconscious perception; we are dealing with forgotten consciousness, as inferred from a disagreement between his message about his action and mine.

We have to be very careful to avoid the implication that we have explained something when we have merely talked about it in other words. Translating conscious and unconscious into two kinds of messages is a start but it is not an explanation. The explanation must come in showing the circumstances under which normal verbal communication gets distorted, so that messages take the forms characteristic of unconscious communications.

Again induction of hypnosis gives us some clues, because hypnosis is characteristically produced by verbal suggestions (i.e., messages of a certain kind) and produces profound effects upon states of awareness.

Typically, the induction of hypnosis produces a conflict of a particular kind. The subject cooperates voluntarily with the hypnotist or he cannot be hypnotized. But he is told to cooperate voluntarily by permitting his actions to take place involuntarily. This is a peculiarly paradoxical set of instructions. For example, he is told to keep his eyes open and stare at a bright object, all the while the hypnotist tells him he is getting so sleepy and his eyelids are so heavy that they will close all by themselves. How can he be cooperative by keeping his eyes open and also by closing them reasonably promptly? His proper answer, if he can achieve it, is to *try* to keep his eyes open, but to *let them* close by themselves. This is a kind of dissociative experience in itself, and calls for two kinds of messages: "I am trying to keep my eyes open" and "They are closing

by themselves." The second kind of message is characteristic of unconscious processes: unconscious acts are impulsive, out of control, I am not responsible for them. Hence the very act of hypnotizing the subject sets the conditions for the difference between typically conscious and typically unconscious varieties of communication.[13]

Unconscious communication may use the verbal mechanisms, as in slips of speech and free association, but more typically makes use of other processes, as in fantasy, dreams, bodily movements, gestures, emotions. Once the hypnotic trance is achieved, it is relatively easy to produce hallucinations, contractures, anesthesias, and other evidences of unconscious responses to the verbal communications of the hypnotist. We may think of Mary's eye tic as her unconscious request for information, revealed through her eyes when her verbal requests have failed. In fact, all the devices Freud used to understand the unconscious are communicative ones: dreams, mannerisms, free associations, and symptoms.

The study of the differences among states of awareness as distortions of communication — both of messages received and of messages transmitted — appears to me promising, but the matter is too complex to pursue here. I have mentioned the possibility merely to indicate that accepting unconscious processes as demonstrated does not commit one to accept a particular doctrine about the nature of the unconscious.

## Some Social Consequences of Increased Knowledge of Unconscious Processes

Now we are ready to return to the larger social consequences that result from our knowledge about the existence of unconscious processes. We now face issues of value that do not lend themselves to precise statement. Yet we must dare to face these issues, for so much is at stake.

There are many attempts at diagnosing the ills of our society. David Riesman tells us that we are so oriented toward other people that we lose the sense of our own solidity.[14] Allen Wheelis has more recently examined the "quest for identity" from the standpoint of a contemporary psychoanalyst.[15] We seem to be torn in two directions

[13] Bateson, G., Jackson, D. D., Haley, J., and Weakland, J. "Toward a Theory of Schizophrenia." *Behav. Sci.*, 1956, 1, 251-264. Haley, J. "An Interactional Theory of Hypnosis" (to appear).

[14] Riesman, D. *The Lonely Crowd.* New Haven: Yale Univ. Press, 1950.

[15] Wheelis, A. *The Quest for Identity.* New York: Norton, 1958.

by our retreat from reason, and led to turn either to a philosophy of helplessness and despair on the one hand or to dogmatism on the other.

The retreat from reason is in part conditioned by our newer knowledge of ourselves. If we find that what we thought were reasoned values are but rationalizations of tribal mores, we lose confidence in our capacities to solve problems thoughtfully. As we note the re-emergence of human cruelty and barbarism, whether under Fascism or Communism, we are depressed to discover how thin the veneer of civilization really is. Man is perhaps too cruel and irresponsible to be trusted with the modern weapons of destruction. To protect us from despair, we may embrace strange philosophies such as existentialism, return to orthodox religion, or be tempted, as many nations are, to accept some dogmatic form of totalitarianism.

Against these choices there remains the possibility of re-establishing our confidence in rationality and discovering again something of the human outlook of the eighteenth century that gave our nation its propitious start.

Is this a mere romantic or sentimental hope? I confess that I cannot see man's perfectibility as inevitable; at the same time I do not see our newer knowledge of man as an occasion for despair.

There are three points that I wish to make:

1. First, lest we fear what science has done to mankind, we do well to remind ourselves that our greatest weaknesses are precisely in those fields — human relationships, politics, government — in which we have given least attention to rational scientific methods. To push research in the behavioral or social sciences, along with our push in the direction of physical and biological sciences, may be one road to our salvation. We have not found out too much about ourselves; thus far we do not know ourselves well enough.

2. Second, new knowledge is never to be feared as undermining human dignity or decency. Man will remain as noble as he ever was, no matter how well we come to know him. New knowledge shatters only illusions; it does not destroy character.

I do not wish to minimize the temporary shocks that come when habitual beliefs are questioned. We went through that with evolutionary theory; we are going through it again with modern dynamic psychology. When what was formerly thought to be moral weakness is interpreted as neurotic illness, the conception of personal responsibility shifts. There are dislocations, but in the end there is

a more humane attitude toward the ill, and moral irresponsibility remains as reprehensible as it ever was.

3. Third, the very knowledge of our own irrationality is a triumph for rationality. This sounds paradoxical, but it is not really so. Only a clear-thinking man is capable of discovering his own mechanisms of self-deception; only rational processes can reveal the areas of irrationality. The aim of psychoanalytic therapy is not to turn the patient over to his unconscious but to free him from its tyranny. He becomes acquainted with his unconscious in order to master it. In aim, at least, psychoanalysis seeks to re-establish rationality, to make problem-solving realistic.

Therefore instead of thinking that knowledge of unconscious irrational processes has degraded man, we may think of these discoveries as providing new possibilities for creativity, planfulness, and the reasonable conduct of human affairs.

The possibility of decent control of human relationships has never been so great as today. The resources of our modern technologies provide a rich basis, but these resources can be used well only if we can capitalize on our knowledge of man.

Sounder knowledge of man, including his unconscious processes, can contribute in many beneficial ways: in child-rearing, in methods of teaching, in leadership and managerial practices, in the relations between government and the governed, and between governments.

Through knowledge alone man will not eliminate his unconscious aspects and irrational impulses, but he has before him the possibility of using this knowledge to reduce the areas of irrationality in human affairs. If through this knowledge a small lift is given toward a new era of reasonableness and decency, the labors of psychologists will not have been in vain.

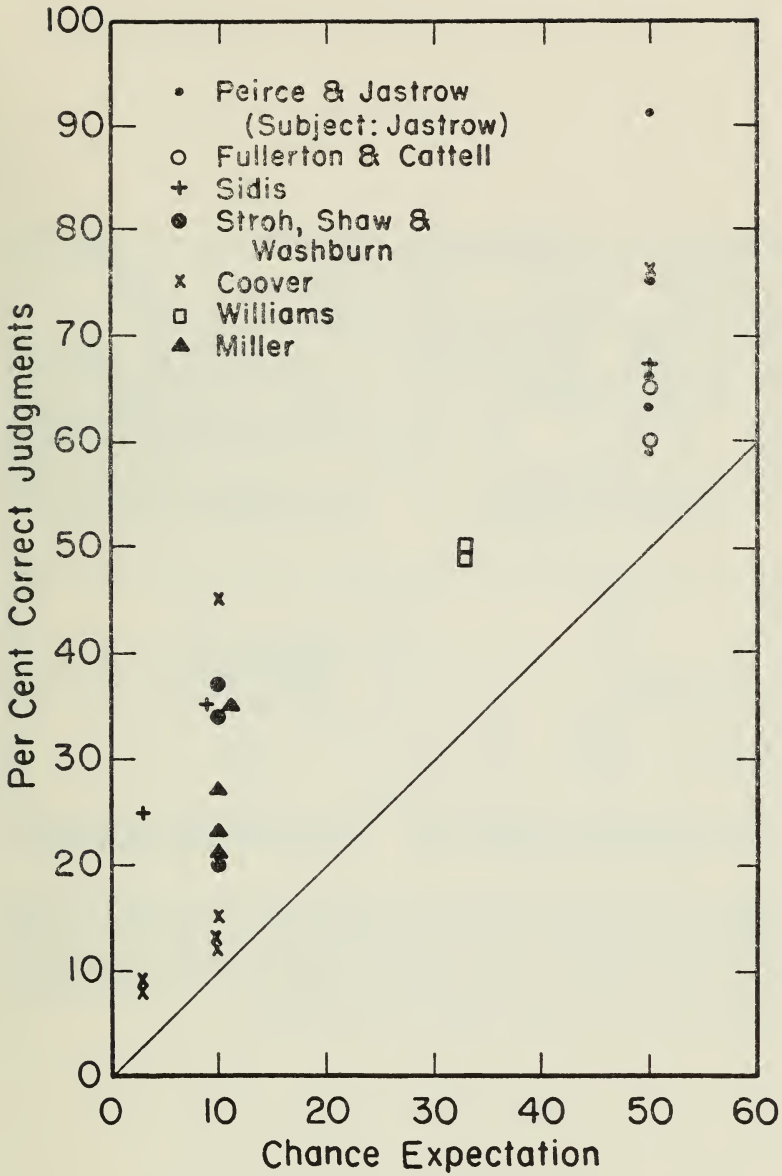



**Figure 1.** Discrimination without awareness. The diagonal line represents chance, hence all of the results are beyond chance expectation. Experiments in which the nature of the cue is known, as summarized by J. K. Adams, *Psychological Review*, 1957, 54, page 388. Reproduced by permission.

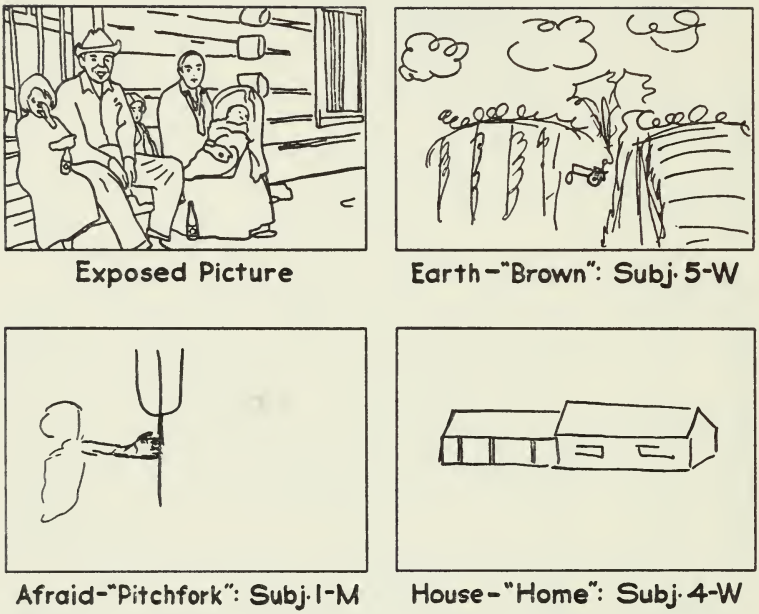



Figure 2. Evidence of influence by unnoticed features of the stimulus picture, without direct recovery of features of the stimulus. The exposed picture is traced in the upper left. Each of the other pictures was drawn following the indicated word association. They have in common a possible influence from the barred window of the original.

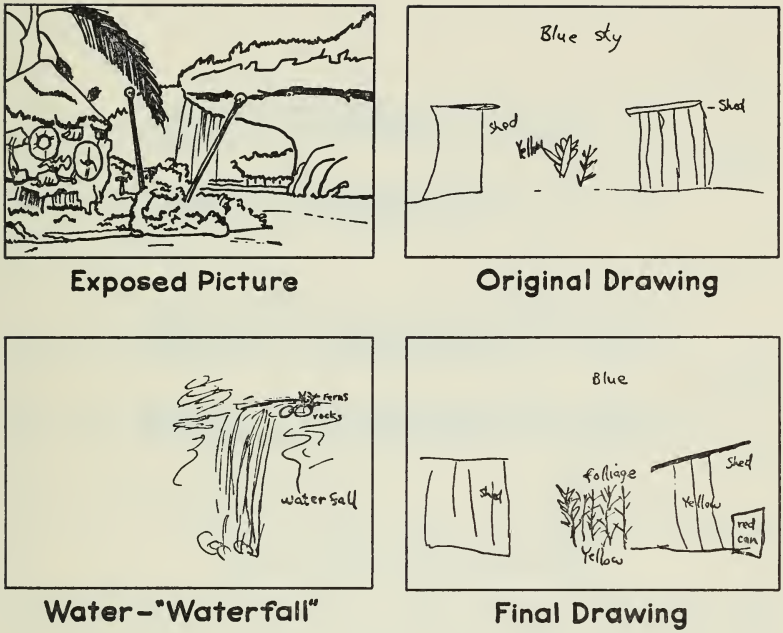
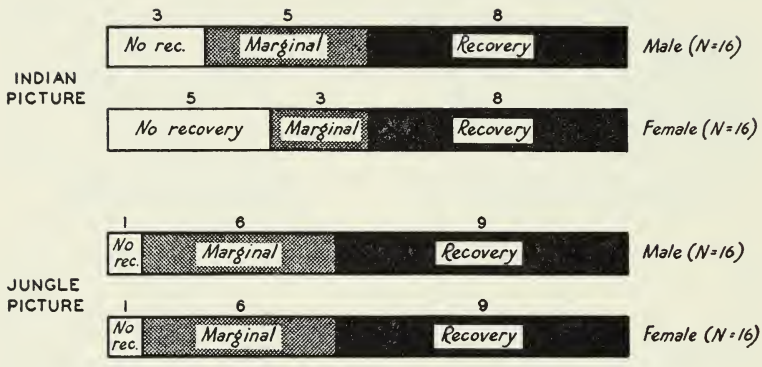



**Figure 3.** Failure to recognize recovered material. Although the waterfall is "recovered" in the word association, it is not indicated in the final drawing. All drawings from Subject 4-M.




STIMULUS RECOVERY WITHIN DRAWINGS
FOLLOWING WORD ASSOCIATIONS

**Figure 4.** Evidence of recovery (direct or indirect) in one or more of the drawings of each subject following brief exposure of the two pictures. The "marginal" recoveries represent those in which there is a possible influence by the stimulus, but the two judges were in doubt.

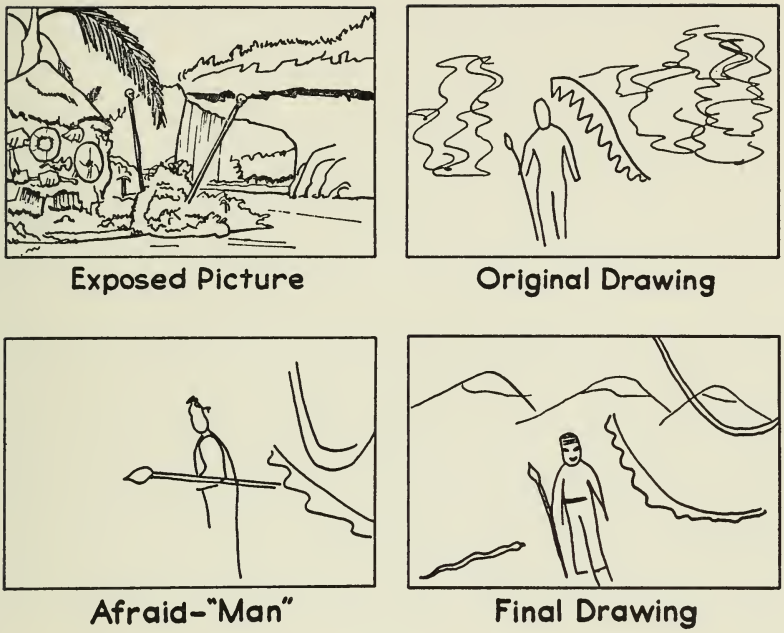



**Figure 5.** Illustration of distortion with possible symbolic meanings. All drawings by one subject, Subject 15-W.

UNIVERSITY OF ILLINOIS-URBANA
3 0112 065100379